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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,456	12/06/2000	Kenneth L. Levy	P0249	1278

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DIGIMARC CORPORATION  
9405 SW GEMINI DRIVE  
BEAVERTON, OR 97008

EXAMINER

POLTORAK, PIOTR

ART UNIT	PAPER NUMBER
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2134

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/731,456

Applicant(s)

LEVY ET AL.

Examiner

Peter Poltorak

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 11/22/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The Amendment, and remarks therein, received on 11/22/2004 have been entered and carefully considered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

### *Response to Amendment*

3. **THE REQUEST FOR RE-FILING THE IDS HAS BEEN NOTED AND FEES HAVE BEEN WAVED.**
4. Applicant's arguments have been carefully considered but they were not found persuasive.
5. The examiner thanks applicant for pointing out that the rejection of claims 1-2, 4 and 7-8 made under 35 U.S.C. 102 (b) should be 35 U.S.C. 102 (a). This is now being corrected.
6. As per claim 1 applicant argues that Katzenbeisser does not teach the "adjusting a relationship" such that the alteration to the media signal to be detected alters the relationship.

The examiner points to the previous Office Action, wherein the limitation in question has been highlighted in paragraph 12.

In addition, applicant argues that Katzenbeisser is silent as to adjusting a relationship between coefficients to enable authentication. Enabling authentication is not part of the claim limitation. The examiner reminds applicant that the preamble patentable weight.

As a result applicant's suggestions that claims 2, 4 and 7-8 are patentable for the same reasons as claim 1 is not persuasive.

7. As per claim 10 applicants argues that the elements of claim 10 are not inherent in Brucktein.

The argument is found not persuasive. Inherency was directed towards signal peaks only. As presented in the previous Office Action Bruckstein evaluates *(the word "evaluate" is treated in its broadest reasonable interpretation)* the media signal as a whole *(image data)* without excluding the signal peaks.

Also, Bruckstein teaches that embedding the watermark involves modifying the magnitude of an image data by multiplying it with a "watermark mask" *(pg. 5 lines 26-55)*. As a result the watermark embedding introduces additional signal peaks into the original data. The image evaluation as seen in Fig. 1 clearly deals with watermarks, and as a result with signal peaks as well.

8. Furthermore, in regard to claims 10-16 applicant points out that Bruckstein does not teach "determining based on degradation of the signal peaks whether the media signal has been altered."

The examiner showed this limitation in the previous Office Action. In addition, in order to provide more intuitive examples of Bruckstein's teaching of the argued limitation the examiner refers applicant to pg. 3 lines 66-67 and pg. 4 lines 13-14, wherein Bruckstein explicitly writes that the solution presented by the method ensures that attempts to remove the tags or tamper with them have noticeable ill-

effects on the image. In other words Bruckstein teaches determining that the media signal has been altered based on degradation of the signal peaks.

9. As per claims 18-20 applicant argues that Daly does not teach correlating a calibration signal including a set of peaks at selected frequency coefficients.

The data is recovered from the image by cross-correlating the source image containing embedded data with a decoding carrier image to recover the data image (*abstract*)

10. Furthermore applicant argues that Daly does not explicitly teach evaluating whether the media signal has been altered and that Daly's approach of finding an array of pixels where performance of the decoder will be optimized has nothing to do with evaluating whether the media signal has been altered.

The argument is found not persuasive.

Claims 18-20 are directed towards a detector and an analyzer (devices). The devices can be used for many different purposes and the purpose does not define the device. As a result the limitations towards a specific use in claims 18-20 have been disregarded.

11. As per claim 3 applicant argues that the combination of Wolfgang with Katzenbeisser does not render the claim obvious.

The examiner points to the fact that Katzenbeisser's reference is missing scanning, printing or photocopying the image signal that can result in the alternation to be detected. Wolfgang teach that the original watermarked signal is subject to copying, printing and scanning (*Wolfgang, col. 1 lines 58-66, col. 2 lines 22-34*), and

teach a need for tools for identification of copies of the protected work that may have been forged, filtered, or otherwise modified (*col. 1 lines 25-33*).

12. As per claim 5 applicant argues that there is no motivation to combine

Katzenbeisser's with Ribas-Corbera's teaching since Ribas-Corbera's not taught for any type of authentication.

The examiner points that authenticating a media signal is taught by Katzenbeisser, and Ribas-Corbera's invention is designed to increase the fidelity of a signal (*Ribas-Corbera, col. 1 line 5 – col. 2 line 31*), which could minimize the risk of errors when checking the alteration to the signal.

13. As per claim 6 applicant argues that there is no motivation to combine Katzenbeisser and Rhoads because Katzenbeisser has not been established as prior art.

The examiner points applicant to § 6 (*above*) of this Office Action and § 32 of the previous Office Action.

14. As per claim 9 applicant argues that Echizen provides no suggestion that his method of comparing differences in brightness values with threshold values can be used to detect alteration as claimed, and fails to suggest that this technique could apply to frequency coefficients.

The examiner points out that Echizen has been cited as an example of the well-known practice of detecting alteration of the potentially corrupted media signal (*digital or analog*), wherein the potentially corrupted media signal is compared with the threshold. In order to detect alteration of any entity, a relationship of the suspect entity (or at least some of the suspect entity characteristics) to the original entity (or

at least some of the original entity's characteristics, *threshold*) must be examined (computed).

15. Claims 1-20 have been examined.

16. Claims 1-2, 4 are rejected under 35 U.S.C. 102(a) as being anticipated by Katzenbeisser et al. (Stefan Katzenbeisser and Fabien A.P. Petitcolas, "Information hiding techniques for steganography and digital watermarking", ISBN: 1580530354) for the reasons discussed in the previous Office Action.

17. Claims 7-8 are rejected under 35 U.S.C. 102(a) as being anticipated by Katzenbeisser et al. (Stefan Katzenbeisser and Fabien A.P. Petitcolas, "Information hiding techniques for steganography and digital watermarking", ISBN: 1580530354).

18. Claims 7-8 are substantially equivalent to claim 1; therefore claims 7-8 are similarly rejected.

19. Claims 10,14 and 17 remain rejected under 35 U.S.C. 102(e) as being anticipated by Bruckstein et al. (U.S. Patent No. 6757407) for the reason discussed in the previous Office Action.

20. Claims 18-20 remain rejected under 35 U.S.C. 102(b) as being anticipated by Daly et al. (U.S. Patent No. 5859920) for the reasons discussed in the previous Office Action.

21. Claim 3 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Katzenbeisser et al. in view of Wolfgang et al. (U.S. Patent No. 6625295) for the reasons discussed in the previous Office Action.

22. Claim 5 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Katzenbeisser et al. in view of Ribas-Corbera (U.S. Patent No. 6535251) for the reasons discussed in the previous Office Action.
23. Claim 6 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Katzenbeisser et al. in view of Rhoads et al. (U.S. Patent No. 5832119) for the reasons discussed in the previous Office Action.
24. Claims 9 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Katzenbeisser et al. in view of Echizen et al. (U.S. Patent No. 6563935) for the reasons discussed in the previous Office Action.
25. Claim 11 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckstein et al. (U.S. Patent No. 6757407) in view of Rhoads et al. (U.S. Patent No. 5832119) for the reasons discussed in the previous Office Action.
26. Claim 12 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckstein et al. (U.S. Patent No. 6757407) in view of Echizen et al. (U.S. Patent No. 6563935) for the reasons discussed in the previous Office Action.
27. Claim 13 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckstein et al. (U.S. Patent No. 6757407) in view of Echizen et al. (U.S. Patent No. 6563935) and in further view of Rhoads (U.S. Patent No. 5636292) for the reasons discussed in the previous Office Action.
28. Claim 15-16 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckstein et al. (U.S. Patent No. 6757407) in view of Katzenbeisser et al. for the reasons discussed in the previous Office Action.



### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571)272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (571)272-3838. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Signature  
  
  
Date

  
ANDREW CALDWELL  
SUPERVISORY PATENT EXAMINER